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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/745,873	12/26/2000	Seoung-Young Lee	P-136	2230
34610	7590	07/12/2005	EXAMINER	
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153			KADING, JOSHUA A	
			ART UNIT	PAPER NUMBER
			2661	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SM

Office Action Summary	Application No.	Applicant(s)	
	09/745,873	LEE, SEOUNG-YOUNG	
	Examiner	Art Unit	
	Joshua Kading	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 and 24-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 and 24-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 17, 18, 25, 26, 30, and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by applicant's admitted prior art (AAPA).

Regarding claims 17 and 25, AAPA disclose "a method for informing a plurality of terminals of the occupied or unoccupied state of channels of a CDMA system, comprising:

providing a unique PN code for all channels used in the CDMA system from a base station to each one of a plurality of terminals in communication with the base station (*figure 1 shows the terminals and base station in contact with each other; figure 3 shows that each channel has a unique PN code*);

monitoring, by each terminal, all of the channels to determine whether or not one of the channels is available (*specification, page 2, lines 1-7*);

transmitting a power control signal over an occupied channel using the PN code of the occupied channel (*figure 3 shows the power control signal transmitted over an occupied channel using the PN code*); and

transmitting an idle signal over an idle channel using the same PN code as the idle channel (*figure 3 shows that the idle channel is transmitted on the same PN code channel as the power control signal*)."

Regarding claims 18 and 26, AAPA further disclose, "wherein the power control signal is transmitted on a channel when the base station acquires synchronization and phase of a data packet transmitted by one of the plurality of terminals (*figure 3 shows the transmission of the power control signal; page 3, lines 13-16 of the specification point to the preamble aiding in synchronization before transmission of the power control signal*), and wherein the idle signal is then transmitted on the channel when the base station has received the entire packet of data (*figure 3 where it shows the idle signal is transmitted when the channel is not be used by a terminal or when a packet has finished transmitting*)."

Regarding claims 30 and 32, AAPA further discloses, "wherein a terminal is not pre-allocated to a specific channel (*specification, page 2, lines 3-5 where since the terminal monitors a channel to see if it is idle or not, and if it is idle, it will begin to transmit, means that the terminal is not assigned to a specific channel because it can't know which channels are idle and which aren't*)."

Claim Rejections - 35 USC § 103

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6, 8-14, 16, 19-22, 24, 27-29, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of U.S. Patent 5,809,423, Benveniste.

Regarding claims 1 and 20, AAPA discloses "a method for allocating channels in a CDMA packet data system, comprising:

providing channel availability information for all channels from a base station to each of a plurality of terminals (*figure 1 shows the terminals and base station; figure 2 shows the channel availability information*);

transmitting a state signal from the base station over each of the allocated channels indicating the unavailable state of the allocated channels (*figure 3, where the power control signal indicates the unavailable state of a channel as can be read on page 4, line 3 of the specification*);

simultaneously monitoring, by each terminal, all of the channels in parallel to detect whether the state signal indicating channel availability indicates a channel is idle (*specification, page 2, lines 1-7*)."

AAPA lacks what Benveniste discloses, "dynamically allocating available channels to corresponding ones of the plurality of terminals to allow transmission of packet data according to an available or unavailable state of each channel (*col. 9, lines*

47-54; it should also be noted that Benveniste allows for application to a CDMA system as can be read in col. 19, lines 36-40)".

It would have been obvious to one with ordinary skill in the art at the time of invention to include the dynamic allocation of channels with the rest of the method for the purpose of allowing a cell (or group of terminals) where all channels are busy to borrow an idle channel of a different cell. The motivation being that by borrowing channels the system allows for more users to access the network (*Benveniste, col. 7, lines 9-10*).

Regarding claim 8, AAPA discloses "a method for transmitting packet data by dynamically allocating channels in a communication system, comprising:

providing channel availability information for all channels from a base station to each of a plurality of terminals (*figure 1 shows the terminals and base station; figure 2 shows the channel availability information*);

determining which, if any, of all the channels is in an occupied state using a corresponding plurality of PN codes (*page 1, lines 15-19 discloses the PN codes and figure 3 shows the power control signal with a PN code being used to identify an occupied state*)..."

However, AAPA lacks what Benveniste discloses "...transmitting a data packet through a dynamically allocated unoccupied one of the plurality of channels for transmission and monitoring each channel to determine when the occupied state of one of the channels is released, if there is no channel in the unoccupied state (*col. 9, lines*

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47-54; it should also be noted that Benveniste allows for application to a CDMA system (a PN code system) as can be read in col. 19, lines 36-40)".

It would have been obvious to one with ordinary skill in the art at the time of invention to include the dynamic allocation of channels with the rest of the method for the purpose of allowing a cell (or group of terminals) where all channels are busy to borrow an idle channel of a different cell. The motivation being that by borrowing channels the system allows for more users to access the network (*Benveniste, col. 7, lines 9-10*).

Regarding claims 2 and 24, Benveniste lacks what AAPA further discloses, "establishing in a base station the plurality of channels for data communication, each channel having a unique PN code (*figure 1 shows each terminal in communication with a base station; figure 3 shows the terminals using PN codes that are unique to each channel*); receiving from the base station the unique PN codes of each of the plurality of channels (*page 1, lines 15-19; it should be noted that although AAPA does not explicitly disclose the receiving of all PN codes at the terminals, it does suggest that the terminals in a group are given their PN codes to access their assigned channel; it also noted, that when Benveniste is applied to AAPA as in claim 1 the PN codes of AAPA must be received at all the terminals, that is to say if the terminals didn't have all the PN codes, they wouldn't be able to access the different channels of the system and there would be no borrowing of the channels, thus the PN codes must be received at all the terminals*); and monitoring each of the plurality of channels to determine and occupy the state of

each channel (*page 3, lines 1-12 of the specification; figure 3 shows the power control signal is used to identify an occupied channel*).” It would have been obvious to one with ordinary skill in the art at the time of invention to include the sending all the PN codes to all the terminals for the same reasons and motivation as in claims 1 and 8.

Regarding claims 3, 4, 11, and 22, Benveniste lacks what AAPA further discloses, “wherein simultaneously monitoring each of the plurality of channels comprises detecting on each channel one of a power control signal and an idle signal, wherein the power control signal is an occupied channel signal indicating unavailability of the channel, and the idle channel signal indicates channel availability (*figure 3 where there is an idle signal and a power control signal transmitted*).” It would have been obvious to one with ordinary skill in the art at the time of invention to include the idle signal and the control power signal for the same reasons and motivation as in claims 1, 8, and 20.

Regarding claims 5 and 21, Benveniste lacks what AAPA further discloses, “transmitting a power control signal through a downward link channel corresponding to the allocated channel through which a packet of data is transmitted when synchronization is acquired using a preamble of the data packet (*figure 3, where there is a power control signal transmitted on channel A with terminal 2; page 3, lines 13-16 of the specification point to the preamble aiding in synchronization*); and transmitting a channel occupancy release signal through the downward link channel corresponding to

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the allocated channel through which the data packet was transmitted when the data packet has been fully received (*page 4, lines 4-8 where the transmitting of an idle signal after the packet has been transmitted is the functional equivalent to transmitting a channel occupancy release signal in that it signifies the release of the channel from the terminal, it allows other terminals to access the channel*)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the power control signal and the channel occupancy release signal for the same reasons and motivation as in claims 1 and 20.

Regarding claim 6, AAPA lacks what Benveniste discloses, "each of the available channels are dynamically allocated to different ones of the plurality of terminals (*col. 9, lines 47-54 where "the call" represents a terminal*"); it should also be noted that Benveniste allows for application to a CDMA system as can be read in *col. 19, lines 36-40*)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the dynamically allocating channels to different terminals for the same reasons and motivation as in claim 1.

Regarding claim 9, AAPA and Benveniste both lack "the step of determining the occupied state comprises simultaneously multiplying the PN code for each channel by a signal received from a base station." Although both AAPA and Benveniste lack "multiplying the PN code for each channel by a signal received from a base station" it is known in the art that this is how a communication system using PN codes works. The

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signal is modulated with a PN code so that it is "spread" across a plurality of frequencies. Then it is transmitted and demodulated so that the original message may be constructed. It would have been obvious to one with ordinary skill in the art at the time of invention to include the PN multiplying with the method of claim 8 for the same reasons and motivation as in claim 8.

Regarding claim 10, Benveniste lacks what AAPA discloses, "the multiplication is performed at a rate equal to a power control signal transmission rate of the base station (*figure 3 shows the PN code (not including the synchronization) is the same length as the power control signal thus suggesting that the multiplication of the PN code is performed at a same rate as the power control signal*)." It would have been obvious to one with ordinary skill in the art at the time of invention to have the multiplication rate the same as the power control signal with the method of claim 9 for the same reasons and motivation as in claim 9.

Regarding claim 12, Benveniste lacks what AAPA discloses, "a signal transmitted from the base station is multiplied by each one of the plurality of PN codes to determine if the channel associated with a prescribed one of the PN codes is occupied or idle (*figure 3 suggests that a PN code (specifically PN A in figure 3) is multiplied or modulated with a power control signal from the base station which identifies the availability status of the channel*)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the multiplied PN codes and the signal from

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the base station with the method of claim 11 for the same reasons and motivation as in claim 11.

Regarding claim 13, Benveniste lacks what AAPA further discloses, "a power control signal transmitted on a channel indicates that the channel is occupied (*figure 3 shows the power control signal is transmitted only when a terminal is using or occupying the channel*)."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the power control signal with the method of claim 12 for the same reasons and motivation as in claim 12.

Regarding claim 14, Benveniste lacks what AAPA further discloses, "each channel has a unique PN code (*page 1, lines 16-17 of the specification*)."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the unique PN code for each channel with the method of claim 12 for the same reasons and motivation as in claim 12.

Regarding claims 16, 19, and 27, AAPA discloses, "wherein...the plurality of terminal have stored therein the unique PN code of each channel (*figure 3 shows the communication between base station and terminals, thus the PN codes must be stored within the terminals so that they may communicate with the base station*)."

However, AAPA lacks what Benveniste discloses, "...each one of the plurality of terminals stores therein the unique PN code of each...channel (*col. 9, lines 47-54 where having a*

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terminal borrow a channel from a different cell means that the terminal must have the borrowed channel's PN code stored within it so that it may communicate using the borrowed channel; it should also be noted that Benveniste allows for application to a CDMA system as can be read in col. 19, lines 36-40)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the storing all PN codes in each terminal with the rest of the method for the purpose of allowing a cell (or group of terminals) where all channels are busy to borrow an idle channel of a different cell. The motivation being that by borrowing channels the system allows fore more users to access the network (*Benveniste, col. 7, lines 9-10*).

Regarding claims 28, 29, and 31, Benveniste lacks what AAPA discloses, "wherein a terminal is not pre-allocated to a specific channel (*specification, page 2, lines 3-5 where since the terminal monitors a channel to see if it is idle or not, and if it is idle, it will begin to transmit, means that the terminal is not assigned to a specific channel because it can't know which channels are idle and which aren't*)." It would have been obvious to one of ordinary skill in the art at the time of invention to include the channel that is not pre-allocated for the same reasons and motivation as in claims 1, 8, and 20.

5. Claims 7 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA and Benveniste as applied to claims 6 and 12 respectively above, and further in view of U.S. Patent 5,604,730, Tiedemann, Jr. (Tiedemann).

Regarding claims 7 and 15, AAPA and Benveniste lack what Tiedemann discloses, "each one of the plurality of channels comprises a traffic channel and a signaling channel, and wherein the packet data is transmitted over the data channel and the state signal is transmitted over the signaling channel (*figure 7, element 705 shows that each larger traffic channel contains a power control channel (signaling channel) and traffic channel*).” It would have been obvious to one with ordinary skill in the art at the time of invention to include the signaling and traffic channels with the method of claim 1 for the purpose of allowing the identification of an available channel using the power control. The motivation being that a power control signal allows a terminal to control a channel without other terminal interference (*AAPA, page 4, lines 1-3 of specification*).

Response to Arguments

6. Applicant's arguments filed 3 January 2005 have been fully considered but they are not persuasive.

Applicant makes the following arguments:

1) The terminals of AAPA are placed into distinct groups that do not monitor channels across group boundaries and therefore the terminals cannot monitor all channels of the base station.

2) A similar argument to 1) is made with respect to Benveniste.

The examiner respectfully disagrees for the following reasons:

1) As read on page 2, lines 12-16 of AAPA, all the terminals of the base station are placed into a single group, thus the terminals monitor all channels of the base

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station. This example is further supported with regard to the terminals of page 2, lines 1-7 because as noted on page 1, lines 15-19 there is the possibility of having the same number of channels as terminals or less. This way there are no separate groups and each terminal monitors all channels.

2) As noted in the rejections, AAPA is used to disclose the monitoring of the channels by the terminals not Benveniste. In this regard the rejections above are proper and read on the broadly interpreted claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Kading whose telephone number is (571) 272-3070. The examiner can normally be reached on M-F: 8:30AM-5PM.

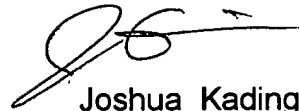
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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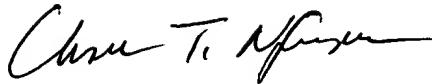
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Joshua Kading
Examiner
Art Unit 2661

July 6, 2005



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TECHNOLOGY CENTER 2600